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RAPID DOSING OF FOOD PELLETS IN
TOXICOLOGICAL STUDIES WITH BIRDS*

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A technique for accurate dosing of commercially available food pellets has been developed in connection with our studies on the secondary poisoning effects of the avicide DRC-1339 (active ingredient: 3-chloro-*p*-toluidine hydrochloride). With this technique, described below, we prepared enough pellets to treat 1,000 starlings.

The major equipment consists of a calibrated 5-ml microburette and a hair dryer (Fig. 1). The three-way stopcock of the burette is fitted with a Teflon plug and connected with a bent inlet tube. A Yale $\frac{1}{2}$ -inch needle is fitted to the Luer syringe grinding on the stem of this commercially available burette. The pointed tip of the needle is cut off. The inlet of the burette connects to a leveling bulb through Tygon tubing. The leveling bulb holds the avicide solution. Accidental overflow of the toxic solution during filling is avoided by keeping the height of the solution in the bulb lower than the top of the burette.

The avicide is dissolved in a solvent in such a concentration that each division of the burette scale is equivalent to a definite amount of the avicide. Food pellets, which are of approximately the same size, are arranged on stainless-steel spatulas. The pellets are moved under the delivery tip by pushing the spatula along the edge of a guide. An exact volume of solution is applied to each pellet, and hot air is simultaneously directed from the hair dryer upon the pellet. Dosing should be done under a ventilated hood.

Median-lethal dose of the avicide to starlings has been found to be in the range of 3.2–5.6 mg/kg (1). The average value is 4.4 mg/kg. In the present study, five times this average value was used. Since the average weight of starlings was 67 g, the median-lethal dose for the bird was 295 μ g and the five-times dose was 1.47 mg. We dissolved 14.7 g of the avicide in 30 ml of methanol and

*Reference to a commercial product does not imply endorsement.

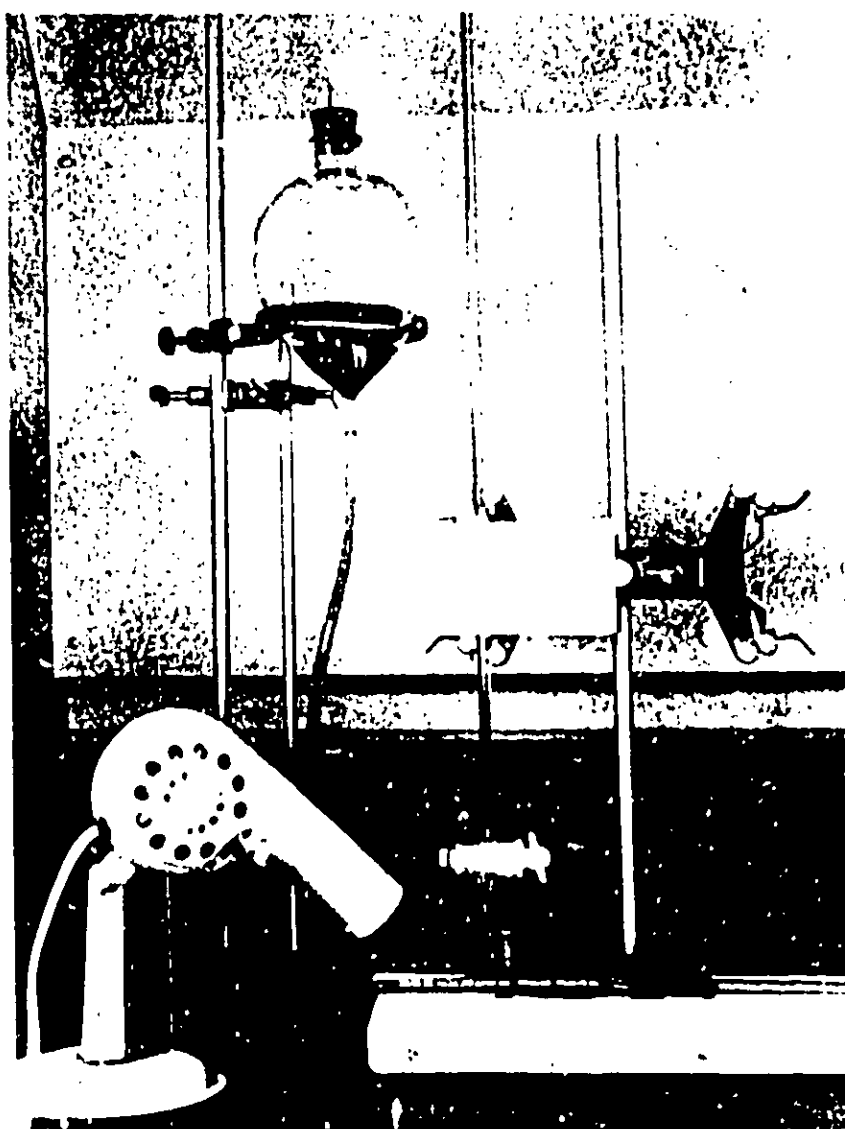


Fig. 1. Arrangement for rapid dosing of food pellets in toxicological studies with birds.

made the volume up to 100 ml with the solvent in a volumetric flask. Every 0.01 ml of the solution, the amount applied to one pellet, contained 1.47 mg of the avicide. The average rate of dosing was about 10 seconds per pellet. Purina Starteena pig food pellets were used. Each pellet was about 0.4 mm in diameter and 0.7 mm in length, and weighed about 110 mg.

We found that about 90% of the troublesome regurgitation of the pellets by starlings could be prevented by wetting the treated pellet with glycerine in a rapid dip just before feeding.

This technique may be useful in dosing pellets for medication of other birds.

REFERENCES

- L. DeCino, Thomas J., Donald J. Cunningham, and Edward W. Schafer. Toxicity of DRC-1339 to starlings, *J. Wildlife Management* 30, 249-253, 1966.